

# PRD series

## 10 to 50 Amp Heavy Duty AC or DC Power Relay

- Ⓛ File E22575 (Models With All Screw Terminals)
- Ⓡ File E22575 (All Others)
- Ⓢ File 15734

Users should thoroughly review the technical data before selecting a product part number. It is recommended that users also seek out the pertinent approvals files of the agencies/laboratories and review them to ensure the product meets the requirements for a given application.

### Features

- Contact ratings to 50 amps.
- Magnetic blowouts available for switching DC loads.
- Arrangements to DPDT.
- SPDT auxiliary switch available.
- Replaces PR series.

### Contact Data @ 25°C

**Arrangements:** Available to 2 Form C (DPDT). See ordering information.  
**Ratings:** See UL contact rating tables.  
**Minimum Rating:** 1A @ 12 VAC/VDC.  
**Material:** Silver and silver-cadmium oxide standard. Other materials available for special applications.  
**Expected Life:** 100,000 operations at rated loads @25°C. Specific exceptions are noted in ratings tables. Life increases at reduced loads or with appropriate arc suppression.

### UL/CSA Contact Ratings

Models with Screws or Quick Connects as Main Terminals

| Type              | Contact Code | Contact Ratings                                                                                                                                 |
|-------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| PRD-1, 3 or 5     | Y            | 25 amps @ 277VAC<br>1 HP at 120VAC<br>2 HP at 250VAC<br>10 amps at 600VAC<br>7 amps at 50VDC Res.                                               |
| PRD-1, 3 or 5     | G            | 30 amps at 277VAC Res.<br>1.5 HP at 120VAC<br>2HP at 250VAC<br>10 amp at 600VAC                                                                 |
| PRD-1, 3 or 5     | F            | 50 amps at 240VAC Gen. Purp. (20,000 Ops.)<br>30 amps at 277VAC Res.<br>1.5 HP at 120VAC<br>2HP at 250VAC<br>10 amp at 600VAC                   |
| PRD-7 or 11       | Y            | 25 amps at 240VAC<br>20 amps at 277VAC<br>1 HP at 120VAC<br>2 HP at 250VAC<br>7 amps at 50VDC Res.<br>10 amps at 600VAC                         |
| PRD-7 or 11       | G            | 30 amps at 240VAC<br>20 amps at 277VAC<br>1.5 HP at 120VAC<br>2 HP at 250VAC<br>10 amps at 600VAC                                               |
| PRD-7 or 11       | F            | 50 amps at 240VAC Gen. Purp. (20,000 Ops.)<br>30 amps at 240VAC<br>20 amps at 277VAC<br>1.5 HP at 120VAC<br>2 HP at 250VAC<br>10 amps at 600VAC |
| PRD-3, 7 or 11    | H or J       | 20 amp at 125VDC<br>1/3 HP at 125VDC                                                                                                            |
| PRD-1, 5, 7 or 11 | N            | 25 amp at 250VAC<br>1 HP at 125VAC<br>2 HP at 250VAC                                                                                            |

**Note:** Any PRD relay deviating electrically or physically from the standard models in the table is not UL or CSA listed. All horsepower ratings are for single phase motors.

### UL Contact Ratings

Models with Box Lugs as Main Terminals

| Type                 | Contact Code | Contact Ratings                                                                                                                                                                                                                                                          |
|----------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRD-3AP4<br>PRD-3DP4 | P            | 50 amps at 277VAC, Gen. Purp.<br>30 amps at 277VAC, Ballast (6,000 Ops.)<br>15 amps at 277VAC, Tungsten (6,000 Ops.)<br>102LRA, 17FLA at 240VAC (30,000 Ops.)<br>120LRA, 20FLA at 120VAC (30,000 Ops.)<br>1.5 HP at 120VAC (30,000 Ops.)<br>3 HP at 240VAC (30,000 Ops.) |

**Note:** Any PRD relay deviating electrically or physically from the standard models in the table is not UL or CSA listed. All horsepower ratings are for single phase motors.

### DC Factory Contact Ratings

Models with Box Lugs as Main Terminals

| Type                 | Contact Code | Contact Ratings                            |
|----------------------|--------------|--------------------------------------------|
| PRD-3AR4<br>PRD-3DR4 | R            | 60 amps at 28VDC Res.<br>30 amps at 125VDC |

### Auxiliary Snap-Action Switch

**Arrangements:** 1 Form C (SPDT).  
**Rating:** 5 amps at 120VAC, 60 Hz. @ 25°C.  
**Material:** Silver.

### Initial Dielectric Strength

**Initial Breakdown Voltage:** 2,000V rms minimum between all elements and ground. (2,200V rms on 600V ratings.)

### Coil Data @ 25°C

**Voltage:** From 6 to 220VDC, and 6 to 480VAC.  
**Resistance:** See coil data table.  
**Nom. Power: DC coils:** 2.0 watts @ 25°C.; **AC coils:** 9.8VA @ 25°C.  
**Max Power: DC coils:** 8.0 watts @ 25°C.  
**Duty Cycle:** Continuous.  
**Initial Insulation Resistance:** 100 megohms, minimum.

### Coil Data

| DC Coils      |                                                                         |                                 | AC Coils (50-60Hz.) |                               |                                 |
|---------------|-------------------------------------------------------------------------|---------------------------------|---------------------|-------------------------------|---------------------------------|
| Nominal Volts | Resistance In Ohms ±10% @ 25°C                                          | Nominal DC Current In Milliamps | Nominal Volts       | DC Resis. In Ohms ±15% @ 25°C | Nominal AC Current In Milliamps |
| 6             | 18                                                                      | 333                             | 6                   | .86                           | 1600                            |
| 12            | 71                                                                      | 169                             | 12                  | 3.2                           | 820                             |
| 24            | 288                                                                     | 84                              | 24                  | 12.0                          | 410                             |
| 48            | 1150                                                                    | 41.7                            | 120                 | 290                           | 85                              |
| 110           | 6050                                                                    | 18.2                            | 240                 | 1200                          | 43                              |
| 220           | Use 110V relay with approx. 6,000 ohm 5W wire-wound resistor in series. |                                 | 480                 | 4500                          | 22                              |

### Operate Data @ +25°C

**Must-Operate Voltage:** DC: 75% of nominal; AC: 85% of nominal.

### Environmental Data

**Temperature Range:** AC: -55°C to +45°C.; DC: -55°C to +80°C.

### Mechanical Data

**Mounting:** Two .187" (4.75mm) Dia. holes on 1.875" (47.63mm) centers.  
**Termination:** See ordering information tables for various options.  
**Enclosure:** Metal dust cover, 35D013, available. Order separately.  
**Weight:** 10 oz. (284g) approximately.

**Ordering Information for Models with Screws or Quick Connects for Main Terminals**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Typical Part No. ▶</b> | <b>PRD</b>        | <b>-7</b>         | <b>A</b>                                 | <b>Y</b>          | <b>0</b>               | <b>-120</b> |      |     |  |  |                                          |  |  |   |   |   |   |   |   |      |                   |                   |                   |                   |                   |                        |      |                  |                   |                   |                   |                   |                   |             |  |  |  |             |                   |                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------|-------------------|------------------------------------------|-------------------|------------------------|-------------|------|-----|--|--|------------------------------------------|--|--|---|---|---|---|---|---|------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------------|------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------|--|--|--|-------------|-------------------|-------------------|
| <p><b>1. Type:</b><br/>PRD = Open relay.<br/>PRDA = Open relay with aux. SPDT snap-action switch.</p> <p><b>2. Main Contact Arrangement:</b><br/>1 = SPST-NO                      7 = DPST-NO<br/>3 = SPST-NO-DM                7V = DPST-NO with 3mm contact gap<br/>5 = SPDT                            11=DPDT</p> <p><b>3. Coil Input:</b><br/>A = 50/60 Hz.                      D = DC</p> <p><b>4. Main Contact Material:</b><br/>Y = .312" (7.92mm) dia. silver. [25A max. rating]<br/>G = .312" (7.92mm) dia. silver cad.-oxide. [30A max. rating]<br/>F = .312" (7.92mm) dia. silver cad.-oxide. [50A max. rating]<br/>†H = Silver w/magnetic blow out. [20A DC max. rating]<br/>†J = Silver cad.-oxide w/magnetic blow out. [20A DC max. rating]<br/>N = Tungsten stationary &amp; silver cad.-oxide movable. [25A max. rating] Code 1, 5, 7 &amp; 11 only.<br/>†Available with Code 3, 7&amp; 11 contact arrangement only.</p> <p><b>5. Termination:</b></p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">CODE</th> <th colspan="3">PRD</th> <th colspan="3">PRDA (With Aux. SPDT Snap-Action Switch)</th> </tr> <tr> <th>0</th> <th>1</th> <th>3</th> <th>A</th> <th>B</th> <th>L</th> </tr> </thead> <tbody> <tr> <td>MAIN</td> <td>#8-32 Screw Term.</td> <td>.250" (6.35mm) QC</td> <td>#8-32 Screw Term.</td> <td>#8-32 Screw Term.</td> <td>.250" (6.35mm) QC</td> <td>Twin .250" (6.35mm) QC</td> </tr> <tr> <td>COIL</td> <td>6-32 Screw Term.</td> <td>.250" (6.35mm) QC</td> <td>.250" (6.35mm) QC</td> <td>#6-32 Screw Term.</td> <td>.250" (6.35mm) QC</td> <td>.250" (6.35mm) QC</td> </tr> <tr> <td>AUX. SWITCH</td> <td></td> <td></td> <td></td> <td>Screw Term.</td> <td>.250" (6.35mm) QC</td> <td>.250" (6.35mm) QC</td> </tr> </tbody> </table> <p><b>6. Coil Voltage:</b><br/>6, 12, 24, 48, 110VDC<br/>6, 12, 24, 120, 240, 480VAC, 50/60 Hz. Coil voltages are available to 125VDC and 600VAC.</p> |                           |                   |                   |                                          |                   |                        |             | CODE | PRD |  |  | PRDA (With Aux. SPDT Snap-Action Switch) |  |  | 0 | 1 | 3 | A | B | L | MAIN | #8-32 Screw Term. | .250" (6.35mm) QC | #8-32 Screw Term. | #8-32 Screw Term. | .250" (6.35mm) QC | Twin .250" (6.35mm) QC | COIL | 6-32 Screw Term. | .250" (6.35mm) QC | .250" (6.35mm) QC | #6-32 Screw Term. | .250" (6.35mm) QC | .250" (6.35mm) QC | AUX. SWITCH |  |  |  | Screw Term. | .250" (6.35mm) QC | .250" (6.35mm) QC |
| CODE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | PRD                       |                   |                   | PRDA (With Aux. SPDT Snap-Action Switch) |                   |                        |             |      |     |  |  |                                          |  |  |   |   |   |   |   |   |      |                   |                   |                   |                   |                   |                        |      |                  |                   |                   |                   |                   |                   |             |  |  |  |             |                   |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0                         | 1                 | 3                 | A                                        | B                 | L                      |             |      |     |  |  |                                          |  |  |   |   |   |   |   |   |      |                   |                   |                   |                   |                   |                        |      |                  |                   |                   |                   |                   |                   |             |  |  |  |             |                   |                   |
| MAIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | #8-32 Screw Term.         | .250" (6.35mm) QC | #8-32 Screw Term. | #8-32 Screw Term.                        | .250" (6.35mm) QC | Twin .250" (6.35mm) QC |             |      |     |  |  |                                          |  |  |   |   |   |   |   |   |      |                   |                   |                   |                   |                   |                        |      |                  |                   |                   |                   |                   |                   |             |  |  |  |             |                   |                   |
| COIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 6-32 Screw Term.          | .250" (6.35mm) QC | .250" (6.35mm) QC | #6-32 Screw Term.                        | .250" (6.35mm) QC | .250" (6.35mm) QC      |             |      |     |  |  |                                          |  |  |   |   |   |   |   |   |      |                   |                   |                   |                   |                   |                        |      |                  |                   |                   |                   |                   |                   |             |  |  |  |             |                   |                   |
| AUX. SWITCH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                           |                   |                   | Screw Term.                              | .250" (6.35mm) QC | .250" (6.35mm) QC      |             |      |     |  |  |                                          |  |  |   |   |   |   |   |   |      |                   |                   |                   |                   |                   |                        |      |                  |                   |                   |                   |                   |                   |             |  |  |  |             |                   |                   |

**Note:** All part numbers are RoHS compliant.

**Stock Items – The following items are normally maintained in stock for immediate delivery.**

|              |              |               |               |                |
|--------------|--------------|---------------|---------------|----------------|
| PRD-3AG0-120 | PRD-5AY0-240 | PRD-7DY0-12   | PRD-11AY0-240 | PRD-11DJ0-24   |
| PRD-3AJ3-24  | PRD-5DY0-12  | PRD-7DY0-24   | PRD-11AY0-480 | PRD-11DY0-12   |
| PRD-3AY0-120 | PRD-5DY0-24  | PRD-11AF0-240 | PRD-11DF0-12  | PRD-11DY0-24   |
| PRD-3DY0-12  | PRD-7AG0-120 | PRD-11AG0-24  | PRD-11DF0-110 | PRD-11DY0-110  |
| PRD-3DY0-24  | PRD-7AY0-24  | PRD-11AG0-120 | RD-11DG0-12   | PRDA-11AGA-120 |
| PRD-5DF0-12  | PRD-7AY0-120 | PRD-11AG0-240 | PRD-11DG0-24  | PRDA-11AYA-120 |
| PRD-5AY0-24  | PRD-7AY0-240 | PRD-11AH0-120 | PRD-11DH0-12  |                |
| PRD-5AY0-120 | PRD-7AY3-120 | PRD-11AY0-24  | PRD-11DH0-24  |                |
| PRD-5AY1-120 | PRD-7DG0-24  | PRD-11AY0-120 | PRD-11DH0-110 |                |

**Ordering Information for 50A Models with Box Lugs for Main Terminals**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                           |            |           |          |          |          |             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------|-----------|----------|----------|----------|-------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Typical Part No. ▶</b> | <b>PRD</b> | <b>-3</b> | <b>A</b> | <b>P</b> | <b>4</b> | <b>-120</b> |
| <p><b>1. Type:</b><br/>PRD = Open power relay.</p> <p><b>2. Main Contact Arrangement:</b><br/>3 = 1 Form X (SPST-NO-DM)</p> <p><b>3. Coil Input:</b><br/>A = AC, 50/60 Hz.<br/>D = DC</p> <p><b>4. Main Contact Material:</b><br/>P = 50 amp, silver.<br/>R = 50 amp, silver with magnetic blow out.</p> <p><b>5. Termination:</b><br/>4 = Main — boxlug terminals which accept #6-#14 wire.<br/>Coil — #6-32 screw terminals.</p> <p><b>6. Coil Voltage:</b><br/>12, 24, 48, 110, 125VDC<br/>24, 120, 240, 277, 480VAC, 50/60 Hz.</p> |                           |            |           |          |          |          |             |

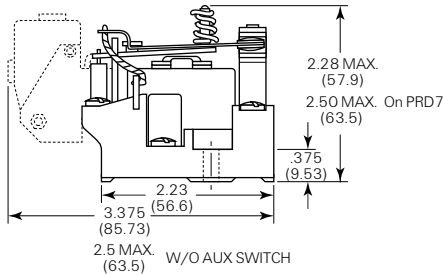
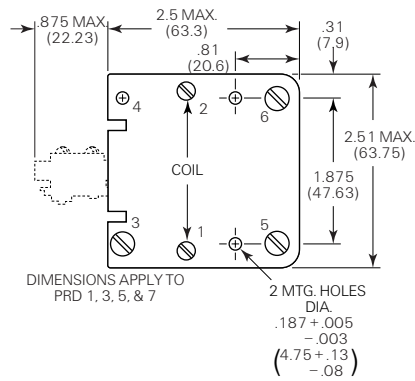
**Note:** All part numbers are RoHS compliant.

**Stock Items - The following items are normally maintained in stock for immediate delivery.**

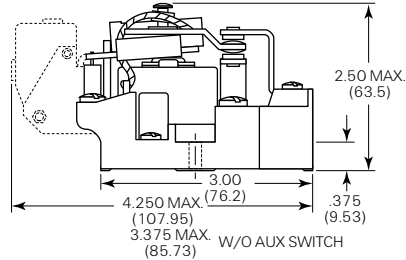
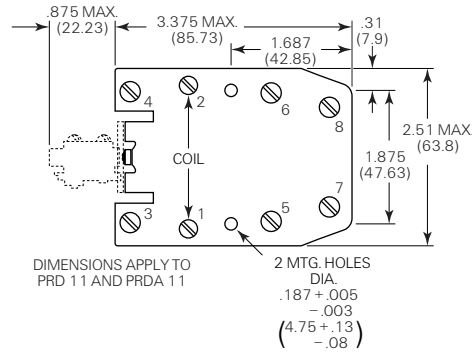
No models in the PRD-3AP / PRD-3DP series are maintained in stock.

**Outline Dimensions**

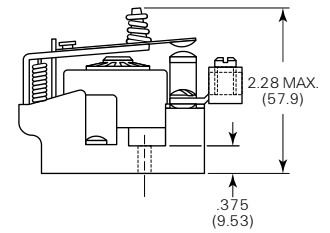
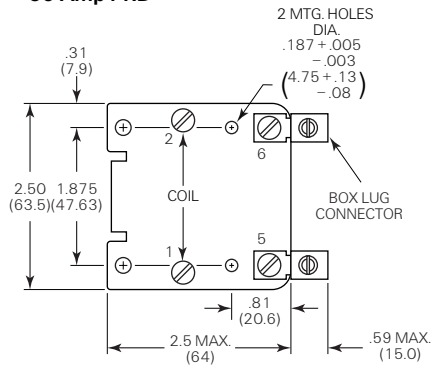
**PRD/PRDA Small Base - Top View**



**PRD/PRDA Large Base - Top View**



**50 Amp PRD**



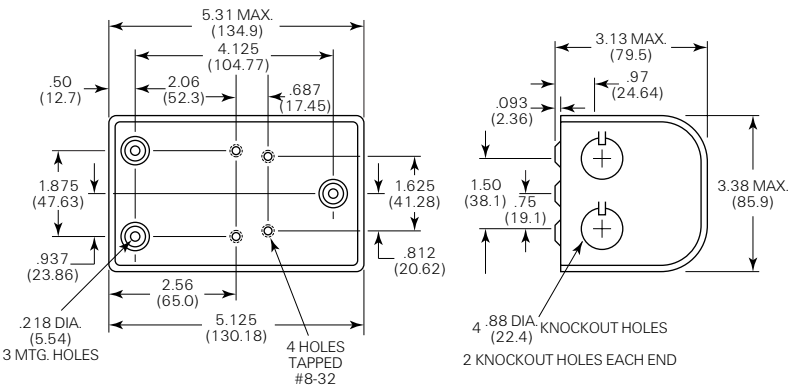
**Dust Cover Open**

**35D013 Dust Cover**

PRD dust cover has a steel base with knockouts for 0.5" (12.7mm) dia. conduit and a cover fitted with two screws. Fits PRD relays, except with auxiliary contacts. Finished in gray baked enamel.

**Mounting:**

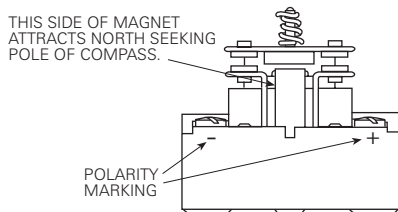
Three No. 10 holes on 1.875" (47.63mm) x 4.125" (104.77mm) centers.



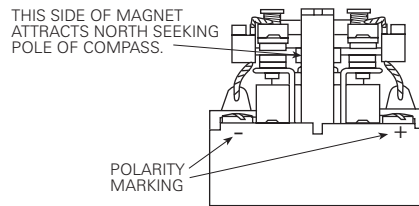
**Note:** Additional unused holes may be present in dust cover base.

**PRD Magnetic Blow-Out Drawings**

**PRD3 with Magnetic Blow-Out**



**PRD7 with Magnetic Blow-Out**



**PRD11 with Magnetic Blow-Out**

